

#### ABSTRACT OF THE DISCLOSURE

An improved intraluminal grafting system incorporating novel structural features for enhancing the effective and efficient deployment of a bifurcated prosthesis having a plurality of attachment systems, in the vessel of an animal body, the system including a balloon catheter assembly, an ipsilateral capsule catheter assembly, distal and contralateral capsule assemblies and means interacting therewith, and a capsule jacket assembly. The capsule assemblies include an ipsilateral capsule assembly, a contralateral capsule assembly and a distal capsule assembly, wherein the attachment systems of the bifurcated prosthesis are disposed within the three capsule assemblies. The capsule jacket assembly includes a removable sheath that covers the bifurcated prosthesis and capsule assemblies to provide a smooth transition along the length of the deployment catheters. The bifurcated prosthesis is comprised of a main tubular member and two tubular legs, having attachment systems secured to the superior end of the main tubular member and the inferior ends of the tubular legs. An inflatable membrane configured on the balloon catheter is used to firmly implant the attachment systems within the vessel. The bifurcated prosthesis and attachment systems are configured to remain in the vessel after the deployment catheters are withdrawn. A novel method of use of the present intraluminal grafting system is also disclosed, for example, for deploying a bifurcated prosthesis proximate the abdominal aortic bifurcation.